

Tax and Fee Reductions and Corporate Financial Decisions: A Case Study of SANY Heavy Industry

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Abstract. In the past decade, China has implemented large-scale tax and fee reduction policies to revitalize the real economy. However, how these policies affect the transmission mechanism between corporate financing costs and capital structure has not been fully understood in industries that are capital intensive and have strong cyclical characteristics. This article adopts an exploratory single case study design, taking the financial data of Sany Heavy Industry from 2016 to 2025 as the object, to examine the financial performance of tax reduction and fee reduction policies in the entire industry cycle. The analysis focuses on core indicators such as operating cash flow, tax refunds, interest expenses, leverage ratio, and debt structure. Research has found that tax reduction and fee reduction can provide meaningful liquidity support and enhance internal financing capabilities for enterprises during industry downturns, which is in line with the expectations of the pecking order financing theory. However, it cannot hedge the dominant impact of industry cycles, nor can it automatically reduce bank credit costs. This is evidenced by the fact that from 2022 to 2023, Sany Heavy Industry received large tax refunds while interest expenses increased. In addition, short-term liquidity relief is not equivalent to optimizing long-term capital structure. If the funds saved by tax incentives are used for long-term investment and short-term debt is mismatched, it may actually exacerbate the risk of maturity mismatch. Based on the above findings, this article proposes countercyclical adjustment suggestions for the coordinated efforts of fiscal policy and financial policy, as well as strategies for matching investment and financing periods and optimizing capital structure at the enterprise level. This case study provides practical insights into financial management for manufacturing enterprises in cyclical fluctuations, and provides reference for policy design to improve the transmission of tax reduction and fee reduction to reduce actual financing costs. At the same time, it points out the direction for future research using first-hand data and multi case comparative studies.

Keywords: tax reduction and fee reduction, Financing cost, Capital structure, Manufacturing enterprises, Industry cyclicity.

1. Introduction

1.1. Research Background and Motivation

Over the past decade, China has implemented a series of substantial tax and fee reduction policies aimed at revitalizing the real economy and alleviating corporate financial burdens. Within this policy context, understanding how these measures affect firm-level financing behavior has become a pressing research question. Manufacturing is a major part of China's real economy. It supports employment, exports, industrial upgrading, and technological development. At the same time, manufacturers usually need more capital than many service businesses because they invest heavily in factories, equipment, inventories, research, and distribution networks. These costs remain even when market demand weakens, so cash flow and financing are important to daily operations. This vulnerability to demand fluctuations is particularly pronounced in the construction machinery sector, where sales cycles are tightly coupled with infrastructure investment, real estate development, and mining activity.

This pressure is especially clear in the construction machinery industry. Demand is closely related to infrastructure investment, real estate activity, mining, exports, and the wider economy. During an expansion, a company may need more funding for production and new products. During a downturn, sales and customer payments may slow while fixed costs continue.

Over the last decade, China has introduced tax and fee reduction policies for manufacturing enterprises. These include lower value-added tax rates, tax credit refunds, additional deductions for research and development expenditure, accelerated depreciation, and reductions in some administrative and social insurance charges [1]. Their most direct financial effect is usually on liquidity. A refund or lower tax payment leaves more cash inside the firm for suppliers, research, debt repayment, or regular operations.

From a corporate finance perspective, tax relief directly augments internal cash flows, which—according to the pecking-order theory—should alter a firm's hierarchy of financing preferences. This mechanism is consistent with the pecking-order theory. Firms generally prefer internal financing, followed by debt and then external equity, partly because outside investors have less information than managers [2]. If tax relief increases cash flow and retained earnings, a company may rely less on external borrowing. However, tax incentives may also encourage equipment purchases and expansion. If the investment is larger than the tax savings, debt may still increase. Tax relief may reduce short-term cash pressure, but it cannot replace sales revenue or remove industry risk. It may support better financing conditions without directly proving that bank interest rates have fallen. SANY Heavy Industry is a useful case because it operates in a capital-intensive and cyclical industry and has relatively complete public financial data.

1.2. Literature Review and Research Gaps

A growing body of literature examines the microeconomic effects of tax reductions on corporate behavior, with particular attention to financing constraints, investment efficiency, and innovation outcomes. Existing studies generally find that tax reductions can ease financing constraints, although the effect differs across firms and policies. Wang, Shen, and Tang found that China's value-added tax deductions reduced borrowing costs and improved access to commercial credit, with different effects across ownership, size, region, and export status [3].

Bai and Wu found that replacing business tax with value-added tax improved investment efficiency by increasing liquidity and reducing dependence on external financing, especially among small and non-state-owned firms [4]. Howell also found that easing financing constraints supported some innovation outcomes, although greater liquidity alone did not solve every form of underinvestment [5].

Zhao and Fang found that accelerated depreciation encouraged fixed-asset investment and increased demand for skilled labor [6]. Huang and Liu found that the policy improved innovation efficiency partly by easing financing constraints [7]. Zheng and Zhang also reported a positive but uneven relationship between tax reductions and corporate innovation [8].

Other research shows more complicated financing effects. Accelerated depreciation may increase long-term leverage when firms expand fixed assets [9]. It may also worsen the maturity mismatch if long-term investment is financed with short-term debt [10]. Zeng and Chan found that accelerated depreciation reduced precautionary cash holdings by easing financing constraints [11]. Tax relief can therefore improve liquidity without causing a simple reduction in debt.

Many studies treat tax and fee reductions as one general policy shock, even though value-added tax refunds, income tax incentives, research deductions, and accelerated depreciation affect cash flow differently. Much of the literature also focuses on innovation, investment, or productivity rather than financing costs, operating cash flow, leverage, and debt maturity together.

Large-sample studies identify average effects, but they may not show how policy interacts with one company's industry cycle and financing choices. A company-level case cannot prove causality, but it can show how policy support appears in actual financial statements.

1.3. Research Design and Analytical Framework

This paper adopts an exploratory case study design, using SANY Heavy Industry as a representative firm to investigate how tax and fee reduction policies manifest in corporate financial statements over a full industry cycle. This paper examines SANY Heavy Industry from 2016 to 2025. SANY is selected because the construction machinery industry has high funding needs and strong cyclical characteristics. The analysis focuses on operating cash flow, tax refunds, interest expense, leverage, and debt structure.

Special attention is given to 2022. In that year, tax refunds were relatively large, but operating cash flow remained weak, and leverage was high. This contrast helps show both the value and the limit of tax support. Official policy documents, academic studies, and SANY's annual reports are used. The financial changes are treated as evidence consistent with possible policy effects, not proof that tax policy alone caused them.

2. Case Description

2.1. Company Profile and Industry Characteristics

SANY Heavy Industry Co., Ltd. is a major Chinese manufacturer of construction and heavy machinery. Its main products include excavators, concrete machinery, lifting equipment, road machinery, and piling machinery. Production requires large investments in facilities, equipment, inventories, research, and distribution.

These characteristics make SANY suitable for studying financing costs and capital structure. Consequently, SANY faces divergent financing challenges across the business cycle: expansion phases require external funding for capacity building and R&D, while contractions strain. To navigate these fluctuations, SANY relies on a mix of internal accruals and external financing instruments, including short-term borrowings, long-term debt, and equity issuance

2.2. Financial and Cyclical Context, 2016–2025

The 2016–2025 period covers strong growth before 2020, a weaker domestic market afterward, and a later recovery supported partly by overseas expansion. As illustrated in Table 1, SANY's financial trajectory unfolded in three distinct phases: an expansionary period (2016–2019) marked by rising operating cash flow and declining leverage; a contractionary phase (2020–2023) characterized by weakened cash generation and elevated debt ratios; and a recovery phase (2024–2025) driven partly by overseas expansion. That year, SANY received considerable tax refunds, but operating cash flow remained low, and leverage was high. The indicators improved again in 2024 and 2025. This non-linear pattern provides a robust empirical basis for disentangling the liquidity effects of tax relief from the structural constraints imposed by industry cyclical— the central analytical task of Section 3.

Table 1. Selected Financial Indicators of SANY Heavy Industry, 2016–2025

Year	Net Operating Cash Flow (RMB billion)	Debt-to-Assets Ratio (%)	Interest Expense (RMB billion)	Tax Refunds Received (RMB billion)
2016	3.25	61.90	N/A	N/A
2018	10.53	55.94	N/A	N/A
2019	13.27	49.72	N/A	N/A
2022	4.10	58.41	0.62	2.61
2023	5.71	54.25	1.01	3.03
2024	14.81	52.02	0.85	2.66
2025	19.98	48.40	0.57	3.15

Source: SANY Heavy Industry annual reports [12–15].

Note: “Tax refunds received” is a broad accounting item that may include several types of refunds. It should not be interpreted as value-added tax credit refunds alone.

3. Analysis of Policy Effects and Problems

3.1. Positive Effects of Tax Relief

3.1.1. Liquidity Support During Financial Pressure

The most direct benefit of tax and fee reductions for SANY is improved liquidity. Refunds and lower tax payments release cash that can support operations, repay short-term debt, or reduce the need for new borrowing.

SANY received approximately RMB 2.61 billion, RMB 3.03 billion, RMB 2.66 billion, and RMB 3.15 billion in tax refunds from 2022 to 2025, respectively [14, 15]. While these inflows were particularly consequential during the financially stressed years of 2022 and 2023, it is important to note that "tax refunds received" is a broad accounting aggregate that may encompass multiple refund categories beyond VAT credits alone.

In 2022, a tax refund of RMB 2.61 billion provided essential liquidity, yet operating cash flow remained subdued at RMB 4.10 billion and leverage stood at 58.41%, confirming that tax relief cannot substitute for organic revenue during a downturn.

Subsequently, operating cash flow reached RMB 5.71 billion (2023), RMB 14.81 billion (2024), and RMB 19.98 billion (2025)—far exceeding the modest fluctuations in tax refunds and underscoring the dominant role of business fundamentals such as sales recovery and overseas expansion [14, 15].

3.1.2. Enhanced Internal Financing Capacity

Tax incentives also help SANY retain more internal funds. This matters because the company spends heavily on research, product development, digital manufacturing, and overseas operations.

In 2025, SANY invested approximately RMB 5.17 billion in research and development, equal to 5.79% of revenue. The additional deduction for research expenditure reduced income tax expense by about RMB 425 million [15]. This did not finance the whole research program, but it reduced part of the cost and left more after-tax cash inside the company.

Under the pecking-order theory, stronger internal financing can reduce the immediate need for debt or equity [2]. Nevertheless, tax incentives cannot substitute for core profitability; their principal contribution is expanding managerial discretion over investment and financing timing.

3.1.3. Financing Flexibility, Not Lower Interest Rates

SANY's debt-to-assets ratio fell from 61.90% in 2016 to 49.72% in 2019. After rising during the downturn, it declined from 58.41% in 2022 to 48.40% in 2025 [12–15]. Interest expense also fell from about RMB 845 million in 2024 to RMB 569 million in 2025 [15].

These changes are consistent with stronger liquidity, but they do not prove that tax policy directly lowered loan interest rates. Interest expense is also affected by debt volume, maturity, market rates, cash balances, and equity financing. The more reasonable conclusion is that tax relief improved financing flexibility. With more internal cash, SANY could repay debt, avoid some borrowing, or continue investing without depending entirely on external funds.

3.2. Boundaries and Problems of Tax Relief

3.2.1. The Industry Cycle Dominates

SANY's financial changes cannot be explained by tax policy alone because construction machinery is highly cyclical. From 2016 to 2019, operating cash flow increased from RMB 3.25 billion to RMB 13.27 billion while leverage declined [12, 13]. Tax reforms may have helped, but demand, sales, collections, and operating efficiency also mattered.

The opposite pattern appeared in 2022. Tax support continued, but operating cash flow fell to RMB 4.10 billion, and leverage rose to 58.41% [14]. This shows that tax relief could not replace revenue or fully offset an industry downturn.

Since no clear counterfactual is available, the safest conclusion is that tax relief supported liquidity while business performance determined much of the final result.

3.2.2. No Automatic Reduction in Financing Costs

Banks set interest rates by considering expected cash flow, collateral, repayment history, industry risk, market rates, and debt maturity. A tax refund may improve liquidity for one year, but a lender may still view the industry as risky.

SANY received substantial refunds in 2022 and 2023, but cash flow remained weak, and leverage stayed above its 2019 level. Interest expense increased from about RMB 620 million in 2022 to more than RMB 1.0 billion in 2023 [14]. The refunds helped with liquidity but did not immediately remove financing pressure.

The policy effect may also differ across firms. SANY is a large listed company with professional financial management and access to several financing channels. Consequently, SANY's experience cannot be generalized to smaller private manufacturers, which typically face tighter financing constraints and weaker policy awareness.

3.2.3. Short-Term Relief vs. Long-Term Capital Structure

Tax savings may be used to repay debt, but they may also support a larger investment plan that requires new borrowing. Research shows that accelerated depreciation can increase leverage when firms expand fixed assets [9]. Long-term investment financed with short-term debt can also create a maturity mismatch [10].

SANY's 2025 position shows this mixed effect. Its leverage declined, and operating cash flow improved, but short-term borrowings rose from approximately RMB 5.95 billion to RMB 9.13 billion [15]. The company also raised equity through H shares. The lower debt-to-assets ratio was therefore influenced by both operating performance and financing choices.

Debt maturity still matters because a large amount of short-term borrowing can create refinancing pressure. International expansion adds exchange-rate, interest-rate, trade, and geopolitical risks. Tax benefits also depend on eligibility and future policy design, so they should not be treated as permanent operating income. Research suggests that tax incentives may reduce precautionary cash holdings [11], which can improve capital use but leave less liquidity during an unexpected downturn.

In sum, while tax and fee reductions enhanced SANY's liquidity and internal financing capacity, the data do not support the claim that these policies directly and independently lowered financing costs. The ultimate capital structure outcome was jointly determined by industry conditions, operating performance, borrowing decisions, equity financing, and international expansion.

4. Suggestions

Based on the analysis of the implementation effect of the tax reduction and exemption policy of Sany Heavy Industry mentioned above, this article finds that the tax preferential policy effectively alleviates the liquidity pressure of enterprises and enhances their internal financing capabilities in the short term. However, the policy effect has certain boundaries and limitations due to industry cycle fluctuations, credit decision-making mechanisms, and the investment strategies of enterprises themselves. Therefore, this article proposes the following targeted suggestions from the perspectives of government policy formulation and corporate financial management

4.1. Countercyclical Adjustment and Policy Coordination

Research has found that in the context of economic downturn and weak industry demand in 2022, although Sany Heavy Industry has obtained a large scale of deferred tax refunds, its operating cash flow is still under pressure, and its asset liability ratio remains high. This indicates that a single tax reduction policy is difficult to fully hedge against severe macroeconomic fluctuations. Therefore, when designing tax and fee support policies for the manufacturing industry, government departments should fully consider the operational characteristics of cyclical industries such as construction

machinery and establish a countercyclical financial and tax policy adjustment mechanism. Specifically, during the economic downturn, in addition to increasing the intensity and speed of value-added tax retention and refund, structural tools such as phased social security fee reductions, loan interest subsidies, or financing guarantees should also be provided to form a policy synergy and truly help enterprises overcome cash flow difficulties. At the same time, it is necessary to strengthen the tracking of the implementation of policies such as the additional deduction of research and development expenses, to ensure that preferential dividends are accurately delivered to the innovation stage of enterprises, rather than simply being deposited as short-term operating funds.

4.2. Fiscal-Financial Policy Linkage to Reduce Financing Costs

This article analyzes that the pricing of bank loan interest rates depends on multidimensional evaluations of the company's future cash flows, collateral, industry risks, and macro market interest rates. Between 2022 and 2023, although Sany Heavy Industry received considerable tax refunds, interest expenses remained high, reflecting that tax reductions cannot automatically translate into a decrease in bank credit costs. On the one hand, tax authorities and financial regulatory departments should strengthen information sharing and use the situation of enterprises enjoying tax incentives in accordance with the law as a positive credit supplement for bank credit approval, guiding financial institutions to provide reasonable interest rate incentives to manufacturing enterprises that pay taxes with integrity and continue to invest in research and development; On the other hand, the government financing guarantee fund should increase its credit support for medium and long-term loans in the manufacturing industry, alleviate the problem of "not daring to lend or unwilling to lend" caused by cyclical fluctuations in the industry, and thus break through the bottleneck of transmission from tax reduction and fee reduction to reducing actual financing costs.

4.3. Capital Structure Optimization and Investment-Financing Maturity Matching

In response to the limitation that short-term cash support cannot guarantee long-term capital structure optimization, although Sany Heavy Industry achieved a decrease in leverage ratio and improvement in operating cash flow in 2025, the scale of short-term borrowing has significantly increased, and overseas expansion has brought exchange rate and geopolitical risks. This suggests that companies must organically combine external policy dividends with internal financial planning. Firstly, when enterprises utilize the retained earnings increased by tax incentives, they should prioritize long-term financing that matches long-term assets, avoid excessive reliance on short-term debt to inject blood into long-term investment projects, and prevent refinancing risks caused by mismatched maturities. Secondly, with the acceleration of internationalization, enterprises should establish a centralized management system for cross-border funds and use financial instruments such as forward foreign exchange settlement and sale, interest rate swaps, etc. to hedge against exchange rate and interest rate fluctuations. Finally, the management needs to be aware of the non permanent nature of tax incentives and should not view them as routine revenue. Instead, they should focus on enhancing core product competitiveness and operational efficiency, and achieve dynamic optimization of capital structure through robust financial strategies.

5. Conclusion

This study found that the most direct effect of tax reduction and fee reduction policies is to improve corporate liquidity, provide important supplements to operating cash flow during industry downturns, and enhance internal financing capabilities; However, the policy effect has clear boundaries and cannot hedge against the dominant role of industry cycles. The phenomenon of weak operating cash flow and high leverage ratio in 2022 indicates that the financial performance of enterprises fundamentally depends on market demand and other operating fundamentals. At the same time, tax cuts have not automatically reduced bank credit costs, as evidenced by the fact that interest expenses have increased instead of decreased during the case period; In addition, short-term liquidity support

and long-term capital structure optimization cannot be simply equated. If tax incentives are used for long-term investment and short-term debt is mismatched, it may actually exacerbate the risk of maturity mismatch.

This study provides practical insights for financial management for manufacturing enterprises in strong cyclical industries, that is, policy dividends should be regarded as a "buffer pad" to enhance financial resilience rather than a conventional source of profit, and actively used to optimize debt structure, match investment and financing terms to enhance long-term risk resistance. At the same time, it provides a reference for policy makers to optimize the transmission mechanism of tax reduction and fee reduction. In addition, this article provides a detailed analysis of the impact of policies on financing cash flow, leverage ratio, and debt structure from a complete industry cycle perspective, filling the gap in existing large-scale research on micro financial transmission mechanisms.

However, this study mainly relies on second-hand data such as public annual reports of enterprises, which makes it difficult to accurately distinguish the specific composition of tax refunds, quantify the actual consideration weight of tax incentives by management when making decisions, and the extrapolation of conclusions from a single case is limited. Future research can use a multi case comparison method to cover manufacturing enterprises of different sizes and ownerships, in order to reveal the underlying reasons for the heterogeneity of policy effects.

Reference

- [1] Ministry of Finance of the People's Republic of China, & State Taxation Administration. (2024). Guidelines on major tax and fee preferential policies supporting manufacturing development. <https://fgk.chinatax.gov.cn/zcfgk/c100022/c5223015/content.html>
- [2] Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221. [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0)
- [3] Wang, J., Shen, G., & Tang, D. (2021). Does tax deduction relax financing constraints? Evidence from China's value-added tax reform. *China Economic Review*, 67, 101619. <https://doi.org/10.1016/j.chieco.2021.101619>
- [4] Bai, Y., & Wu, M. (2024). Tax reform and investment efficiency: Evidence from China's replacement of business tax with VAT. *International Journal of Emerging Markets*, 19(3), 775–797. <https://doi.org/10.1108/IJOEM-08-2021-1295>
- [5] Howell, A. (2016). Firm R&D, innovation and easing financial constraints in China: Does corporate tax reform matter? *Research Policy*, 45(10), 1996–2007. <https://doi.org/10.1016/j.respol.2016.07.002>
- [6] Zhao, L., & Fang, H. (2022). Investment incentives and the relative demand for skilled labor: Evidence from accelerated depreciation policies in China. *China Economic Review*, 73, 101786. <https://doi.org/10.1016/j.chieco.2022.101786>
- [7] Huang, N., & Liu, Y. (2024). Structural tax reduction, financing constraint relief and enterprise innovation efficiency. *Finance Research Letters*, 60, 104848. <https://doi.org/10.1016/j.frl.2023.104848>
- [8] Zheng, W., & Zhang, J. (2021). Does tax reduction spur innovation? Firm-level evidence from China. *Finance Research Letters*, 39, 101575. <https://doi.org/10.1016/j.frl.2020.101575>
- [9] Zhao, L., & Fang, H. (2022). Investment incentives and leverage: Evidence from China's accelerated depreciation policy. *The World Economy*, 45(11), 3625–3649. <https://doi.org/10.1111/twec.13273>
- [10] Feng, Q., Zhao, L., & Xu, M. (2023). Tax incentives and maturity mismatch between investment and financing: Evidence from China. *China & World Economy*, 31(4), 1–36. <https://doi.org/10.1111/cwe.12492>
- [11] Zeng, J., & Chan, K. C. (2023). The tax incentives and corporate cash holdings: Evidence from a quasi-natural experiment of an accelerated depreciation tax policy for fixed assets. *International Review of Financial Analysis*, 88, 102685. <https://doi.org/10.1016/j.irfa.2023.102685>
- [12] SANY Heavy Industry Co., Ltd. (2018). 2017 annual report. https://money.finance.sina.com.cn/corp/view/vCB_AllBulletinDetail.php?id=4241386&stockid=600031

- [13] SANY Heavy Industry Co., Ltd. (2020). 2019 annual report. <https://static.cninfo.com.cn/finalpage/2020-04-24/1207585165.PDF>
- [14] SANY Heavy Industry Co., Ltd. (2024). 2023 annual report. https://www.sse.com.cn/disclosure/listedinfo/announcement/c/new/2024-04-29/600031_20240429_AZZ8.pdf
- [15] SANY Heavy Industry Co., Ltd. (2026). 2025 annual report. <https://static.cninfo.com.cn/finalpage/2026-03-31/1225061378.PDF>